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CULLING HENS:

A way to increase egg profits

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A way to increase egg profits

When you cull hens, you select and remove nonlaying and low-producing birds from your flock. By removing these birds you—

- Save the cost of feeding unproductive birds: hens eat 6 to 7 pounds of feed per month whether laying or not.
- Provide more space for the remaining birds.
- Select hens to keep for a second year of production.

When the flock reaches 50-percent production, select nonlayers and band them. If they do not start laying after 30 days, remove them.

Cull the remaining layers that are producing at a low rate.

CULLING NONLAYERS

You can separate layers from nonlayers by looking for the egg-laying indicators—changes in the appearance, size, or shape of the comb and wattles, vent, pubic bones, and abdomen.

Culling in high-producing flocks

High-producing, bred-to-lay flocks usually have few poor-producing birds. Poultrymen with high-producing flocks often do not cull these few low producers because the flock may be disturbed and egg production affected.

Flocks kept in the cage system are culled primarily on production records.

In a high-producing flock, culling at night with a flashlight will cause the least disturbance.

Comb and wattles

When a hen is not laying, her comb and wattles are dull, dry, and shriveled.

A hen that is laying has a large, smooth, bright-red comb and full, smooth wattles. When laying ceases, the comb and wattles become shrunken again.

Vent

The shape, size, and appearance of the vent change with egg production. The nonlayer's vent is shrunken, puckered, and dry. When laying starts, the small, round vent of the pullet enlarges and becomes oval. A laying hen has a large, smooth, moist vent.

Pubic bones

The two small bones at the sides of the vent are the pubic bones. When a hen is not laying, the distance between the pubic bones is one fingerwidth or less (a fingerwidth equals ¾ inch).

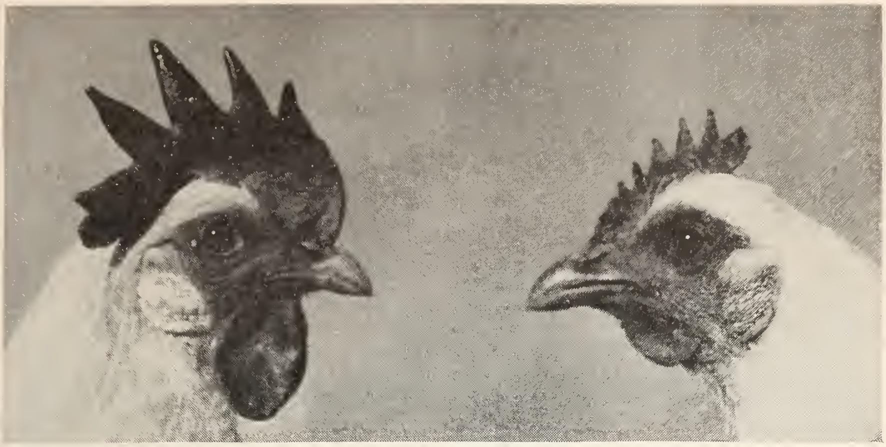
These bones spread apart in a laying bird. In a layer, the distance between the pubic bones will be at least two fingerwidths.

In nonlayers the pubic bones are thick and stiff. This is caused by accumulation of fat on the pubic bones during nonproduction.

During continuous production, this fat gradually disappears and the pubic bones become thin and pliable.

Abdomen

The size of the abdomen, except in an excessively fat hen, is a good indication of laying.



32995-B

A layer (left) has large, smooth comb and wattles. A nonlayer (right) has dry, shriveled comb and wattles.

The abdomen of a nonlayer is hard and contracted: the skin feels coarse and thick. The abdomen of a layer feels soft and pliable.

Pullets and nonlaying hens have a depth of about two fingers between the pubic bones and the keel.

CULLING LOW PRODUCERS

A hen that is currently laying is not necessarily a high producer. Some hens lay so infrequently that they do not return the cost of their feed. Others may lay heavily for a few months and then stop for the rest of the year.

Two guides for finding these low producers are bleaching of the skin pigment and molting.

Bleaching of pigment

Birds producing well over a long period bleach, or lose the yellow pigment in their skin.

Cull birds that show no bleaching after the flock has been laying at a 50-percent rate for 6 to 8 weeks.

Bleaching of parts of a hen's body occurs when egg production begins. The yellow pigment is diverted from the skin to the yolks of the eggs. The amount of bleaching is determined by the length of time the supply of pigment has been diverted.

Culling young birds

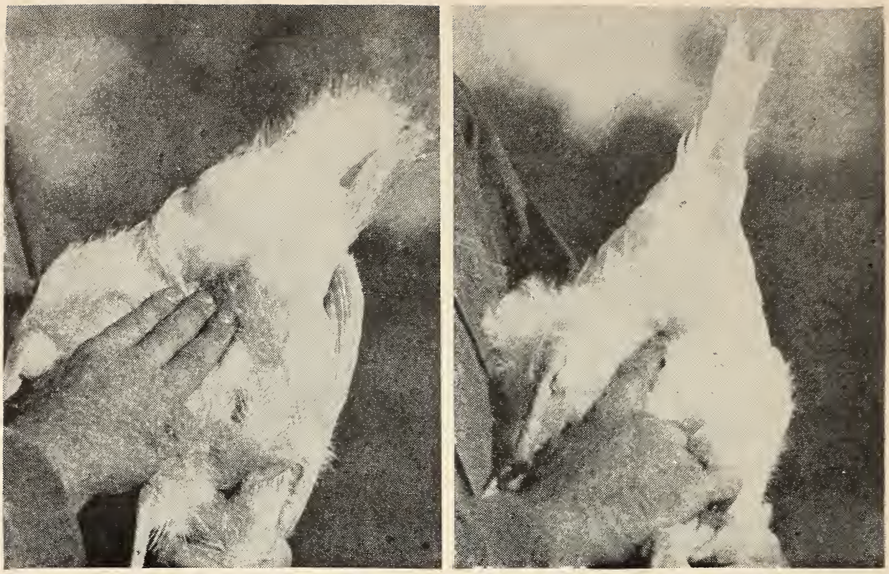
When you start chicks, cull all obviously weak birds.

As the flock gets older, eliminate runty and slow-growing pullets.

Even after culling chicks and pullets, slow-maturing birds may be left in the flock. It will be profitable to cull these slow-maturing birds before putting the flock in the laying house at about 20 weeks of age.

Slow-maturing birds take 8 or 9 months to start laying. They can be detected by lack of comb development, and by abundant and loose feathering.

Fast-maturing birds take 5 to 5½ months to start laying. A fast-maturing bird has bright-red, well-developed comb and wattles, and close-fitting plumage.



18833-B, 18832-B

Pubic bones on a layer (left) are wide apart; pubic bones on a nonlayer (right) are close together.

The different parts of the hen's body bleach in regular order—the vent, the eye ring, the ear lobe, the beak, and the shanks.

Bleaching of the vent—The first and most rapid change occurs in the color of the skin around the edges of the vent. When a yellow-skinned pullet begins to lay, the color fades from the vent and disappears within a few days to, at most, 15 days.

A yellow vent shows that a hen is not laying, and a white, pink, or bluish-white vent indicates that a hen is laying. The bluish-white vent indicates long-term production.

Bleaching of the eye ring and ear lobe.—The eye ring starts to bleach soon after the vent. Usually it is completely bleached in 2 to 3 weeks after the hen begins laying.

The ear lobe loses its yellow pigment in 3 to 4 weeks. In the Leghorn varieties, a bleached ear lobe indicates a slightly longer period of previous production than a bleached vent or eye ring.

Bleaching of the beak.—The color of the beak fades from base to tip. It changes from yellow to white after about 6 weeks of continuous egg production. The lower part of the beak bleaches more rapidly than the upper. The bleaching of the lower beak can be used as a basis for culling when the upper beak normally is dark colored.

Head and body shape

Many poultrymen believe that shape of head and body is an indication of laying ability, but USDA research has shown that the length, breadth, and depth of the skull are unrelated to egg production. Also, depth of body, full breast, and "wedge" shape have no relation to production.

Studies show that an egg-laying type doesn't exist. The ability to lay depends on breeding rather than on any specific type or conformation.

This difference in beak color is frequently seen in the Barred Plymouth Rock or Rhode Island Red.

Bleaching of the shanks.—Bleaching of the shanks occurs more slowly than bleaching of the beak. It is a good indication of long-time production.

The color recedes first from the lower edge of the scales on the front of the shank. The rear of the shank bleaches with continued production until little pigment is left except in the scales of the hock joint. Continuous egg production for 2 to 5 months is required to bleach the shanks completely.

Reappearance of pigment.—When a hen stops laying, the yellow color comes back. The speed of return depends on the kind of feed she gets—large quantities of green feed and yellow corn in the mash and scratch ration will restore the yellow color quickly. The pigment returns to the hen's body in the same order as it bleaches—in the vent first and the shanks last.

Periods of broodiness influence pigmentation. During these periods the yellow color returns to the skin and beak.

The 220-egg pullet does not entirely recover her color as a yearling and bleaches out more quickly in her second year of production.

Variations in bleaching of pigment.—Environment, health, and individuality of birds will cause differences in the density of yellow color.

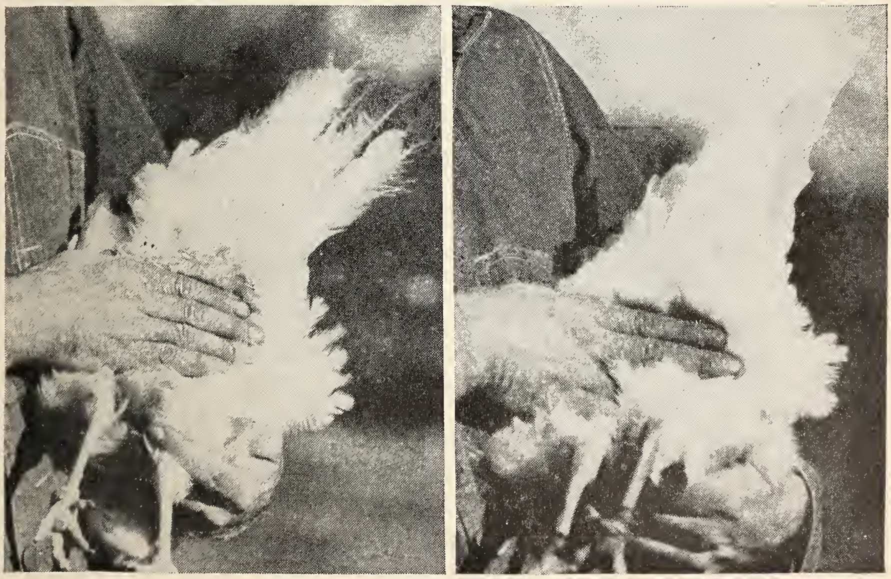
The normal color in the shanks and beak of a yellow-skinned hen may vary from deep orange yellow to creamy white.

Bleached shanks may result from low vitality, parasites, disease, or rundown condition.

Thick skin causes slower bleaching in birds of the larger breeds as well as in individual Leghorns.

Molting

During molt any hen will lose her old feathers and grow new ones.



18831–B, 18830–B

Pubic bones and keel on a layer (left) are wide apart; pubic bones and keel on a nonlayer (right) are close together.

While molting, her egg production will slow or stop.

The date and length of molt are important guides for culling low producers.

The flock undergoes annual molt during the summer and fall months toward the close of the laying year.

The earliest molters are low producers. Early molters stop laying in June or July. They resume laying in 4 to 6 months.

High producers molt late and, after a rest of only 2 to 3 months, begin to lay again. Thus, they have a longer period of production than early molters.

Trap-nest records show that some very-high-producing hens take only a 4- or 5-week rest period. These

CULLING CHART

Separating layers and nonlayers

Character	Layer	Nonlayer
Comb	Large, bright red, smooth, glossy.	Dull, dry, shriveled, scaly.
Face	Bright red	Yellowish tint.
Vent	Enlarged, smooth, moist	Shrunken, puckered, dry.
Pubic bones	Thin, pliable, spread apart	Blunt, rigid, close together.
Abdomen	Expanded, soft, pliable	Contracted, hard, fleshy.
Skin	Soft, loose	Thick, underlaid with fat.

Separating high and low producers

Character	High producer (continuous laying)	Low producer (brief laying)
Vent	Bluish white	Yellow or flesh color.
Eye ring and ear lobe.	White	Yellow.
Beak	White	Yellow.
Shanks	White, rather flattened	Yellow, round.
Plumage	Worn, soiled	Not much worn.
Molting	Late, rapid	Early, slow.

Characteristics of desirable producers

Time of maturity	Laying begins at about 5 to 6 months of age in the case of Leghorns and at about 5 to 7 months in the case of Rhode Island Reds, Plymouth Rocks, and similar breeds.
Rate of production	Average of 200 or more eggs a year.
Broodiness	Birds are seldom broody.
Persistence of production	Hens are laying well in August and September toward the end of the first laying year or after it is completed.

hens usually begin to lay again before the new plumage is fully grown out.

Molting as a guide to culling

If you are keeping your hens for only 1 year's production, eliminate birds as soon as they show signs of general molt.

Poultrymen who keep better birds for a second year's production should cull all hens that have long molting periods. Keep hens that have short molting periods late in the year.

Culling early molters

During August or September, toward the close of the first laying year, the early-molting, low-producing hen has a growth of new feathers. The webs of her feathers are glossy and bright, and the quills are large, full, and soft. The plumage of a good layer shows wear and tear from visits to the nest and usually is soiled. The webs of her feathers are dry and frayed. Her quills are small, hard, and almost transparent.

Culling slow molters

If you keep hens for a second year of production, cull all hens that take over 10 to 12 weeks to molt.

You can estimate when the molt began by counting the primary feathers in the wing. When the wing is spread, the primaries are the large, stiff flight feathers on the outer part of the wing. Do not confuse the primary feathers with the secondaries.

The secondaries also are large and stiff, but they are on the inner part of the wing and close to the body of the bird when the wing is folded.

There usually are 10 primary feathers in each wing. When the body molt begins, the first primary to be dropped is the inner one next to the axial feather. The short axial feather grows out at the wing joint and separates the primaries from the secondaries. An early molter loses one primary every 2 weeks.

Handling and catching chickens

You can catch hens with a catching hook, a catching crate, or a hurdle. In a large flock, the hook may not be satisfactory because the layers may be frightened by the struggles of captured birds. Also, the hook may bruise or injure the bird's leg when she tries to escape.

Use a catching crate or a hurdle for catching and holding birds when you are examining large numbers. Confine the flock to the house and drive the birds through the runway exit into the crate or hurdle as quietly as possible.

To estimate the time since the molt began, allow 6 weeks for the first mature new primary feather and 2 weeks for each additional full-grown one.

If none of the primaries are fully grown out, calculate on their present growth. Each feather makes two-thirds of its growth during the first 3 weeks, and the other third during the last 3 weeks. A half-grown primary, then, would indicate about 2 weeks of growth.

The primaries of the high producers are dropped rapidly during molt. Instead of being renewed one at a time, as in the early molter, a group of two or more primaries of the same length may be growing in at the same time.

In this case, consider all the new feathers of the same length as one in calculating the time since molting began.

Many high producers complete their wing molt in a shorter time than

Breeding chickens

Small poultrymen often want to breed their own birds. However, home breeding usually is not practical because—

- It is difficult to select good breeding stock from a small flock.
- Pens are needed for special matings.
- Males must be kept throughout the year.

Most poultrymen get their chicks from commercial breeders.

usual because they do not molt all the primary feathers or grow new primary feathers in groups of two or more.

Health and management

Health and management can alter a hen's molting pattern. If a hen loses weight too rapidly for any reason she may stop production and molt earler than usual.

Diseases and changes in feed and housing can cause lower body weight and, thereby, cause premature molting.

Premature molting can be avoided by lighting the henhouse and feeding moist mash in early fall. Artificial lights lengthen the hen's working day and moist mash raises feed consumption. Both help maintain egg production.

Partial molt

After a short period of production, early-hatched or early-maturing pullets sometimes have a partial molt in the fall or early winter of the year in which they were hatched. Egg production diminishes, but returns to normal after 6 to 8 weeks. Neck and tail feathers and one or two primaries may be shed during this molt.

Partial molt is difficult to prevent. If your pullets undergo partial molt, note their hatching date and the next year buy later hatched chicks. Pullets hatched in April or later usually do not undergo partial molt.

Broody hens

Broody birds are usually out of production for 2 or 3 weeks. Frequently, they sit on the nest for long periods. They eat little.

Each time you find a bird that is broody, band her.

Separate the broody bird from the rest of the flock.

Broodiness can be broken by putting the bird in a cage with a wire floor.

A cage with a wire floor keeps the bird from sitting down. This forces her to be active and eat. When she is productive again, return her to the flock.

If the leg bands indicate the bird has been broody two or three times, remove her from the flock.

Prepared by

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